

# Atharva Naik

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## Education

### UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN, ILLINOIS, USA

*Master of Science, Computer Science*

Aug 2024 - Dec 2025 (expected)

Thesis: Formal Methods and Algorithms

*Bachelor of Science, Mathematics & Computer Science*

Aug 2020 - May 2024

GPA: 3.92 / 4.00, Highest Distinction

James Scholar Honors Program, Dean's List, LAS Global Leaders Program, Theta Tau Professional Engineering Fraternity, ACM Reflections | Projections Technology Conference, Illinois Geometry Lab, Quant@UIUC

### SINGAPORE AMERICAN SCHOOL - HIGH SCHOOL, SINGAPORE

## Experience

### CS 440 ARTIFICIAL INTELLIGENCE

*Graduate Teaching Assistant*

Aug 2024 - present

- ▶ Providing weekly office hours and asynchronous forum assistance to provide conceptual clarifications to over 1500 students
- ▶ Writing programming assignments and grading in-class quizzes to provide application-based understanding

### AMEREN

*Machine Learning Intern*

May 2023 - present

- ▶ Creating an ensemble learning application with supervised (CatBoost) and unsupervised (Deep Survival Analysis Recurrent Neural Network) models to predict employee retirement at an accuracy level 300% higher than traditional methods
- ▶ Spearheading the development of gas usage and gas customer count predictions using purpose-built clustering methods (Fast Fourier Transform K-Means) and hierarchical time series forecasting (Regression, ARIMA, Prophet)
- ▶ Deploying highly scalable, distributed, end-to-end machine learning applications using PySpark on Databricks

### ILLINOIS GEOMETRY LAB

*Mathematics Research Assistant*

Jan 2023 - May 2023

- ▶ Researched the uniform distribution and rigidity of various sequences and their relationships with Farey fractions
- ▶ Developed a Pythonic way to visualize and approximate the distributions of the powers of rationals, their densities in the unit interval, and their probabilities uniformly distributed in the interval

## Projects

- ▶ *GeoPi* - a unified web platform for 3D visualization & management of geolocation data from multiple HFT hardware sources
- ▶ *Dagger* - a repository dependency graph generator in C++ with GraphViz and Diredit
- ▶ *FCAX* - a pipeline in C++ using OpenCV and a Cinder GUI to automatically stabilize and color correct videos
- ▶ *ExcelSheet* - a conversational Facebook Messenger chatbot to track, report, and analyze day-to-day expenses
- ▶ *Finalist, MIT Policy Hackathon 2022* - data analysis and predictions for housing crisis demand in Massachusetts
- ▶ *OccuPi* - near real-time and forecasted room occupancy using edge computing and zero-shot transfer learning

## Leadership

### ACM REFLECTIONS | PROJECTIONS TECHNOLOGY CONFERENCE

*Director 2023, Development & Systems Chair 2022*

Jan 2023 - Sep 2024

- ▶ Directed over 40 students in diverse operational teams to organize the largest student run technology conference in the midwest, managing a budget of more than \$100,000

### THETA TAU PROFESSIONAL ENGINEERING FRATERNITY

*Technology Chair 2022*

Aug 2021 - present

- ▶ Maintained a React Native website with active database management in MongoDB and synchronous backend services for over 80 members with real-time attendance and event tracking with demographic data visualizations

### LAS GLOBAL LEADERS PROGRAM

*Teaching Assistant 2024*

Aug 2020 - May 2024

- ▶ Worked with a team of health professionals and social workers within the Champaign-Urbana Public Health District to increase awareness for the community around mental health resources using Human-Centered Design solutions
- ▶ Taught an introductory Human-Centered Design course and mentored projects for a class of 24 students

## Skills and Relevant Coursework

- ▶ Java, C++ (w/ OpenCV, GraphViz), Python (w/ Numpy, Pandas, Seaborn, Scipy, Pytorch, PySpark), HTML, CSS, React, and Swift
- ▶ Fluent in verbal and written English, French (ACTFL Advanced), Hindi, and Marathi
- ▶ Distributed Algorithms, Machine Learning for Signal Processing, Systems Programming, Artificial Intelligence, Numerical Analysis, Differential Equations, Real Analysis, Combinatorics, High Frequency Trading, Algorithmic Market Microstructure